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**UTILITY PATENT APPLICATION TRANSMITTAL  
(Small Entity)**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.  
108176/full

Total Pages in this Submission

50

**TO THE ASSISTANT COMMISSIONER FOR PATENTS**Box Patent Application  
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

**APPARATUS AND METHOD FOR BIOLOGICAL TREATMENT OF  
ENVIRONMENTAL CONTAMINANTS AND WASTE**

and invented by:

Jon SHAFFER, PhD.  
Jack FERNANDES  
John LUCIDOIf a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_\*THIS APPLICATION CLAIMS BENEFIT OF U.S. PROVISIONAL APPLICATION SERIAL NO. 60/260,586,  
FILED JANUARY 9, 2001

Enclosed are:

**Application Elements**

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having 35 pages and including the following:
  - a. ☒ Descriptive Title of the Invention
  - b. ☐ Cross References to Related Applications (if applicable)
  - c. ☐ Statement Regarding Federally-sponsored Research/Development (if applicable)
  - d. ☐ Reference to Microfiche Appendix (if applicable)
  - e. ☒ Background of the Invention
  - f. ☒ Brief Summary of the Invention
  - g. ☒ Brief Description of the Drawings (if drawings filed)
  - h. ☒ Detailed Description
  - i. ☒ Claim(s) as Classified Below
  - j. ☒ Abstract of the Disclosure

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**Application Elements (Continued)**

3. ☒ Drawing(s) (when necessary as prescribed by 35 USC 113)
- a. ☐ Formal      b. ☒ Informal      Number of Sheets 5
4. ☒ Oath or Declaration
- a. ☐ Newly executed (original or copy)      ☒ Unexecuted
- b. ☐ Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional application only)
- c. ☒ With Power of Attorney      ☐ Without Power of Attorney
- d. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application,  
see 37 C.F.R. 1.63(d)(2) and 1.33(b).
- ☐ Incorporation By Reference (usable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under  
Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby  
incorporated by reference therein.
6. ☐ Computer Program in Microfiche
- ☐ Genetic Sequence Submission (if applicable, all must be included)
- a. ☐ Paper Copy
- b. ☐ Computer Readable Copy
- c. ☐ Statement Verifying Identical Paper and Computer Readable Copy

**Accompanying Application Parts**

8. ☐ Assignment Papers (cover sheet & documents)
9. ☐ 37 CFR 3.73(b) Statement (when there is an assignee)
10. ☐ English Translation Document (if applicable)
11. ☐ Information Disclosure Statement/PTO-1449      ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Acknowledgment postcard
14. ☒ Certificate of Mailing
- ☐ First Class      ☒ Express Mail (Specify Label No.): EL499467313US

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**Accompanying Application Parts (Continued)**

15. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. ☒ Small Entity Statement(s) - Specify Number of Statements Submitted: Applicant is a small entity.
17. ☐ Additional Enclosures *(please identify below):*

**Request That Application Not Be Published Pursuant To 35 U.S.C. 122(b)(2)**

- ☐ Pursuant to 35 U.S.C. 122(b)(2), Applicant hereby requests that this patent application not be published pursuant to 35 U.S.C. 122(b)(1). Applicant hereby certifies that the invention disclosed in this application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing of the application.

**Warning**

***An applicant who makes a request not to publish, but who subsequently files in a foreign country or under a multilateral international agreement specified in 35 U.S.C. 122(b)(2)(B)(i), must notify the Director of such filing not later than 45 days after the date of the filing of such foreign or international application. A failure of the applicant to provide such notice within the prescribed period shall result in the application being regarded as abandoned, unless it is shown to the satisfaction of the Director that the delay in submitting the notice was unintentional.***

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## Fee Calculation and Transmittal

### CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	40	- 20 =	20	x \$9.00	\$180.00
Indep. Claims	4	- 3 =	1	x \$42.00	\$42.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$370.00
OTHER FEE (specify purpose)					\$0.00
TOTAL FILING FEE					\$592.00

- ☒ A check in the amount of \$592.00 to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. 02-4467 as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of as filing fee.
- ☒ Credit any overpayment.
- ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated:

January 8, 2002

Signature

Warren K. MacRae  
Reg. No. 37,876  
BRYAN CAVE LLP  
245 Park Avenue  
New York, NY 10167  
Phone: 212-692-1800  
Fax: 212-692-1900

CC:

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: )  
J. SHAFFER, et al. )  
Serial No.: To be Assigned ) Examiner: To be Assigned  
Filed: Concurrently herewith ) Group Art Unit: To be Assigned

For: APPARATUS AND METHOD FOR BIOLOGICAL TREATMENT  
OF ENVIRONMENTAL CONTAMINANTS AND WASTE

January 8, 2002

BOX PATENT APPLICATION  
Commissioner for Patents  
Washington, D.C. 20231

**CERTIFICATE OF EXPRESS MAILING**

"Express Mail" mailing label number: EL499467313US  
Date of Deposit: January 8, 2002

I hereby certify that the following:

1. This Certificate of Express Mailing;
2. Utility Application for Patent Cover Sheet (4 pp.);
3. Specification, including claims and abstract (35 pp.);
4. Drawings (6 sheets, informal);
5. Declaration and Power of Attorney (5 pp., unexecuted);
6. Check for \$592.00 to cover the filing fee;
7. Return postcard

are being deposited with the United States Postal Service "Express Mail Post Office To Addressee" service under 37 C.F.R. §1.10 on the Date of Deposit indicated above in an envelope with sufficient postage addressed to BOX PATENT APPLICATION, Commissioner for Patents, Washington, D.C. 20231.

BRYAN CAVE LLP  
245 Park Avenue  
New York, NY 10167

  
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Gregory Smalls